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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>A61K 31/44, 31/505, C07D 413/04</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 95/13067</b> <b>(43) International Publication Date:</b> 18 May 1995 (18.05.95)
<b>(21) International Application Number:</b> PCT/US94/13067 <b>(22) International Filing Date:</b> 8 November 1994 (08.11.94)  <b>(30) Priority Data:</b> 08/148,705 8 November 1993 (08.11.93) US  <b>(60) Parent Application or Grant</b> (63) Related by Continuation US 08/148,705 (CIP) Filed on 8 November 1993 (08.11.93)  <b>(71) Applicant (for all designated States except US):</b> SMITHKLINE BEECHAM CORPORATION [US/US]; Corporate Intellectual Property, UW2220, 709 Swedeland Road, P.O. Box 1539, King of Prussia, PA 19406-0939 (US).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> ADAMS, Jerry, Leroy [US/US]; 611 Forest Road, Wayne, PA 19087 (US). GALLAGHER, Timothy, Francis [US/US]; 255 Manor Road, Harleysville, PA 19438 (US). BOEHM, Jeffrey, Charles [US/US]; 248 Anthony Road, King of Prussia, PA 19406 (US). THOMPSON, Susan, Mary [US/US]; 75 Guilford Circle, Phoenixville, PA 19460 (US).		<b>(74) Agents:</b> DINNER, Dara, L. et al.; SmithKline Beecham Corporation, Corporate Intellectual Property, UW2220, 709 Swedeland Road, P.O. Box 1539, King of Prussia, PA 19406-0939 (US).  <b>(81) Designated States:</b> JP, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> OXAZOLES FOR TREATING CYTOKINE MEDIATED DISEASES  <b>(57) Abstract</b>  This invention relates to the novel oxazole compounds of Formula (I) and novel pharmaceutical compositions comprising a compound of Formula (I) and a pharmaceutically acceptable diluent or carrier. This invention also relates to a method of inhibiting cytokines and the treatment of cytokine mediated diseases, in mammals, thereby by administration of an effective amount of a compound according to Formula (I).		

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US94/13067

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:  
1-10(in part) of groups I, II and for asthma in claims 11-17
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US94/13067

### BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

I. Claims 1-10 wherein one of R1,R2 is pyridyl, the other R1,R2 and all other variables contain no additional hetero-ring.

II. Claims 1-10 wherein one of R1,R2 is pyrimidyl, the other R1,R2 and all other variables contain no additional hetero-ring.

III. Claims 1,4-8,10 wherein both R1,R2 contain pyridyl, other variables contain no additional hetero-ring.

IV. Claims 1,4-8, 10 wherein both R1, R2 contain pyrimidyl, other variables contain no additional hetero-ring.

V. Claims 1,4-8,10 wherein either or both R1,,R2 contain a hetero-ring other than pyridyl or pyrimidyl, each hetero ring or any combination of them is distinct. (Since the claimed language is indefinite, the exact meaning and scope can not be ascertained.) No additional hetero-ring anywhere in the formula.

VI. Claims 1,4-8, 10 wherein one or both R1, R2 contain hetero-ring other than pyridyl or pyrimidyl, each or combination thereof is distinct. (Other variables contain hetero-ring since the claimed language is indefinite. The exact meaning can not be ascertained.)

A method of use in claims 11-17 be considered together with any of the above group elected.

The above groups lack unity of invention because the five-membered oxazole ring would not have been of sufficient similarity (common core structure) to allow a Markush grouping exhibiting unity. Note oxazole ring containing compounds exhibit a variety of uses such as sun screens.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US94/13067

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : A61K 31/44, 31/505 ; C07D 413/04

US CL : 546/275; 544/331,333; 514/340,275,272,269,256

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 544/331,333 ; 514/275,272,269,256,340; 546/275

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS,CAS ON LINE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Chemical Abstracts, volume 99, no.21, issued 21 November 1983, Sallmann, "Trisubstituted oxazo compounds" see abstract no. 175755w, WO 83/02,613 (04.08.83).	1-17
X	Chemical Abstracts, volume 99, no.3, issued 18 July 1983, Sallmann, "Diaryloxazole compounds" see abstract no. 22451u, S. African ZA 82/00,932 (12.2.82).	1-17
X	Chemical Abstracts, volume 97, no. 1, issued 05 July 1982, Sallmann, "Trisubstituted imidazole derivatives: pharmaceutical compositions containing them and their use," see abstract no. 6298c, EP 45,081 (03.02.82).	1-17



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	*T	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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Date of the actual completion of the international search

23 JANUARY 1995

Date of mailing of the international search report

06 FEB 1995

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US94/13067

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Chemical Abstracts, volume 97, no.11, issued 13 September 1982, Sallmann, "Diarylmidazole compounds, pharmaceutical drugs containing them, and their use", see abstract no. 92274w, EP 46,451 (24.02.82).	1-17
X	Chemical Abstracts, volume 100, no.1 issued 02 January 1984, Sallmann, "Trisubstituted oxazoles", see abstract no. 6496w, EP 84,756(03.08.83).	1-17
X	Chemical Abstract, volume 83, no 15 issued 13 October, 1975, Fitzi, "Imidazole derivatives" see abstract no. 131598n, Swiss 561,718 (15.05.75).	1-17